

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 2001109233  
PUBLICATION DATE : 20-04-01

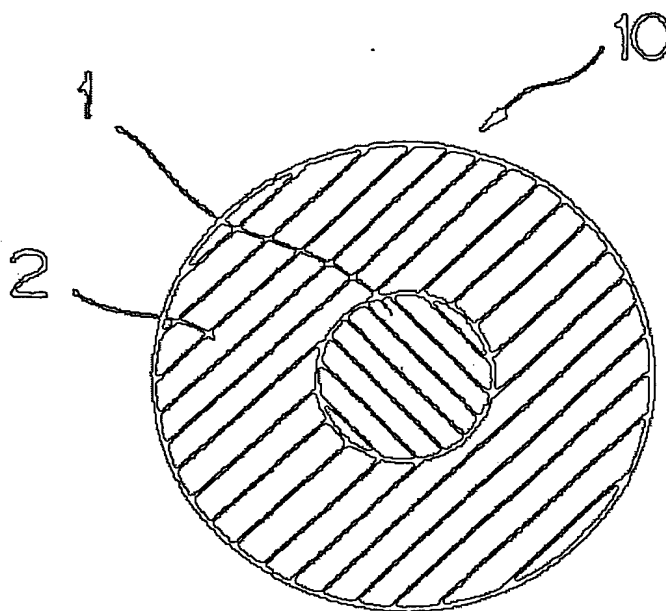
APPLICATION DATE : 05-10-99  
APPLICATION NUMBER : 11284023

APPLICANT : RICOH CO LTD;

INVENTOR : YASUSE NORIHIKO;

INT.CL. : G03G 15/02 F16C 13/00

TITLE : ELECTROSTATIC CHARGING  
MEMBER



ABSTRACT : PROBLEM TO BE SOLVED: To provide an electrostatic charging member which obviates the occurrence of an image defect by a partial electrostatic charging defect, etc., and eliminates the contamination to a photoreceptor drum while maintaining the advantages in environmental protection, such as the reduction of energy consumption in a production process and the curtailment of wastes by recycling at a low cost.

SOLUTION: A material forming a semiconductive elastic layer 2 of the electrostatic charging member (electrostatic charging roll 10) formed with the semiconductive elastic layer 2 on a conductive base 1 is formed of a thermoplastic elastomer dispersed with an ion conductive material and a porous filler. The ion conductive material preferably is at least one kind selected from alkaline metal peroxide like lithium peroxide, perchlorate like lithium perchlorate, quaternary ammonium like tetrabutylammonium salt and phosphate salt. The thermoplastic elastomer preferably contains a polyether chain and/or polyester chain. The porous filler is preferably a porous filler, such as calcium carbonate, clay, silica and zeolite, having a specific surface area of  $\geq 20$  m<sup>2</sup>/g.

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PUBLICATION NUMBER : 11282228  
PUBLICATION DATE : 15-10-99

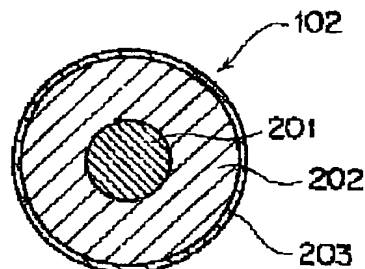
APPLICATION DATE : 26-03-98  
APPLICATION NUMBER : 10079483

APPLICANT : RICOH CO LTD;

INVENTOR : KITANO HIROYUKI;

INT.CL. : G03G 15/02 B32B 27/18 F16C 13/00

TITLE : ELECTRIFYING MEMBER, ITS  
PRODUCTION AND IMAGE FORMING  
DEVICE



ABSTRACT : PROBLEM TO BE SOLVED: To enable decreasing or recycling the energy in the production process and to prevent image defects due to electrification failure by using a thermoplastic elastomer with dispersion of an ionic conductive material as the material to constitute a semiconducting elastic layer.

SOLUTION: The electrification roller 102 consists of a conductive supporting body 201 which is coated with a semiconducting elastic layer 202 and further coated with a tubular protective layer 203. The semiconducting elastic layer 202 is made of a thermoplastic elastomer in which an ionic conductive material is dispersed. As for the ionic conducting agent, for example, alkali metal oxides, perchlorates, quaternary ammonium salts and phosphates can be used, and its compounding amt. is preferably 0.1 to 10 pts.wt. to 100 pts.wt. of the matrix. The thermoplastic elastomer is not specified as far as it has softness required for the electrifying roller 102. A material containing polyether chains as the structural component is preferable because an electrifying member showing stable conductivity can be obtd.

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